



THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

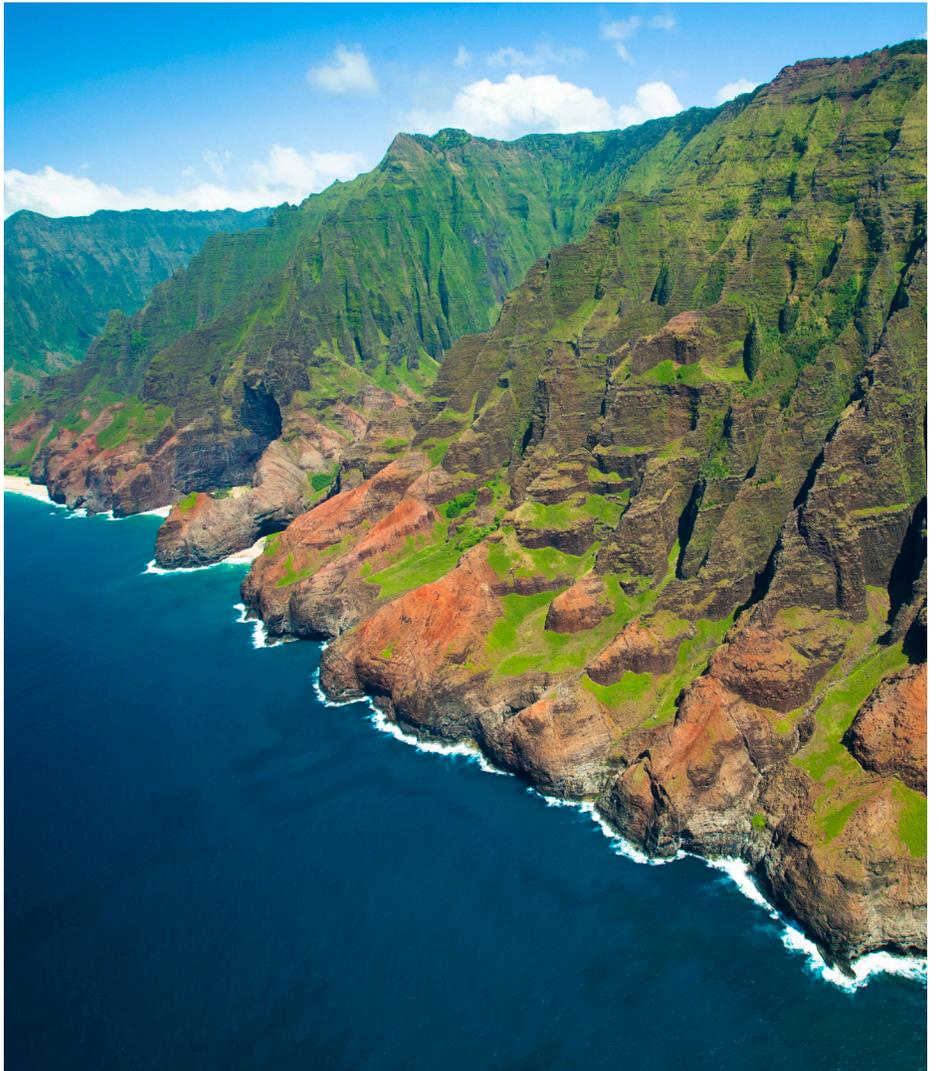
UHERO FORECAST PROJECT

KAUAI ECONOMIC OUTLOOK SUMMARY

PREPARED FOR THE COUNTY OF KAUAI

KAUAI OUTLOOK FAVORABLE DESPITE POLICY UNCERTAINTY

MAY 16, 2017





UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

KAUAI ECONOMIC OUTLOOK SUMMARY PREPARED FOR THE COUNTY OF KAUAI

CARL S. BONHAM, PH.D.
Executive Director

BYRON GANGNES, PH.D.
Senior Research Fellow

PETER FULEKY, PH.D.
Economist

ASHLEY HIRASHIMA
Graduate Research Assistant

JAMES JONES
Graduate Research Assistant

RESEARCH ASSISTANCE BY:
Adele Balderston

EXECUTIVE SUMMARY

The Kauai economy is set for continued moderate growth, decelerating now that jobs lost during the recession have been restored and the tourism recovery is complete. The external environment is favorable for incremental visitor growth, and there remains a pipeline of construction activity. The primary near-term challenges for Kauai include the familiar stresses on the Island's infrastructure associated with growth, as well as the uncertain policy climate in Washington, DC.

- The visitor industry continues its seven-year expansion, with the Island's visitor census hitting an all-time high. Additions to resort capacity will support some additional growth, but congestion and the demands on public infrastructure will exert a restraining influence. Visitor arrivals will average about 2% annual growth over the next three years, with the biggest gains coming from the dominant US market.
- While late to the table, the construction industry became the biggest contributor to job growth in 2015 and 2016, adding 400 jobs over the period. The buildup of new construction activity is now complete, and the industry will operate at roughly the same level for the next few years, before a gradual falloff begins.
- Most other sectors will also see slower growth, now that recovery is complete and the economy is converging to a trend path consistent with the long-run growth of the population and labor force. Prospects are uncertain for health care and the public sector because of uncertain prospects for federal government policy.
- Structural challenges to the local economy and lifestyle persist. Efforts are underway to address Kauai's housing affordability problems, although this will continue to be a pressing issue. Work is ongoing to provide needed maintenance and make improvements to road and airport infrastructure and to plan for livable development patterns.
- Important transitions continue to play out in energy and agriculture on Kauai. The adoption of renewable energy is proceeding at a rapid pace. Seed corn and coffee remain leading crops, but diversified agriculture is expanding. There are public and private efforts to facilitate entrepreneurship in agriculture and other areas, as well as workforce development.
- Despite evident challenges, the range of developments across Kauai's industries supports a positive view both of current conditions and future prospects. Overall employment growth will slow to 1% this year and a bit further thereafter. Together with somewhat higher inflation, this will cause real income growth to ease from the roughly 2.5% range this year and next to less than 2% by 2019.

KAUAI ECONOMIC OUTLOOK

Kauai can expect moderate growth to continue for the next several years. The pace of expansion has begun to ease now that tourism is back to full strength, unemployment has receded, and the construction cycle is approaching a plateau. There is considerable uncertainty about the path for federal policy, which could have implications for individual sectors and for the external environment that undergirds tourism. Closer to home, there are ongoing efforts to address infrastructure challenges, enhance economic opportunity, and maintain the Island’s high quality of life.

TOURISM

The Garden Isle visitor industry continues its seven-year expansion. Growth in visitor numbers brought the seasonally adjusted hotel occupancy rate to nearly 74% at the end of last year. This remains a couple percentage points below the average for the 2003-2008 period, suggesting a bit more room for industry expansion. At the same time, the Island’s visitor census has never been higher, presumably accommodated in part by the rise of individual vacation rentals.¹ Congestion and the demands on public infrastructure are rising concerns, and they will eventually exert a restraining influence on further industry growth.

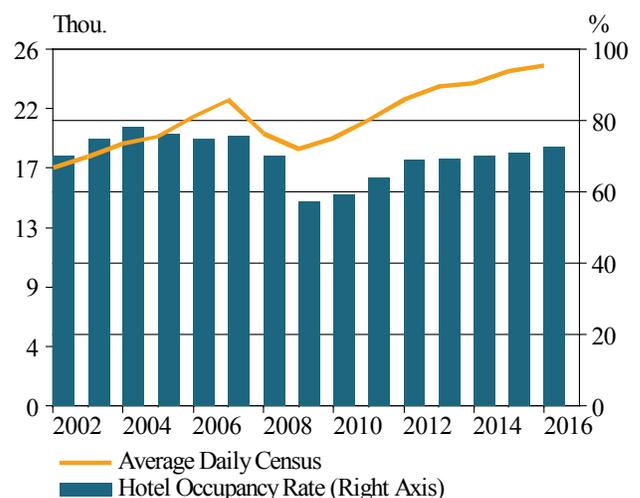
Development at several resorts will provide net additions to the room stock in coming years. In Lihue, work is continuing at Hokuala, the former site of Kauai Lagoons. The first 47 unit phase will be completed by summer, and at full buildout the resort will include 468 units for both residential and visitor use. Demolition of the shuttered

¹Occupancy rate data are from Hospitality Advisors LLC. The survey has limited coverage of hotels and resort condos and excludes timeshare properties, which are running close to full occupancy. It also excludes the unknown number of individual vacation rental units. For these reasons, the survey measure of occupancy rates may overestimate available capacity.

Coco Palms finally began nearly a quarter century after its destruction by Hurricane Iniki. The timeline for construction of the new 350-room resort is uncertain and will depend on arranging financing for the full project. Coconut Beach Resort is developing a 330-unit project in Waipouli that may be branded as a Hyatt Timeshare. Construction work has been delayed by a contested case hearing at the State Board of Land and Natural Resources. Work on infrastructure could begin quickly once the litigation is resolved.

The final phase of Koloa Landing Resort and Spa was recently completed. Late last year, construction finished on the last visitor units, and in recent weeks work was completed on a meeting facility and related amenities. Along the Royal Coconut Coast, the Pono Kai Resort, Kauai Coast Resort at the Beachboy, and Kaha Lani Resort have begun or will undergo renovations totaling more than \$14 million. In Poipu, the Sheraton Kauai is expected to break ground in the coming months on a timeshare conversion. Renovations are ongoing at the ABC Stores’ Coconut Marketplace.

Local developer Jeff Stone has unveiled plans to develop an 80-unit hotel along Kaunuopua Ridge in Hanalei. Pierre Omidyar had proposed a larger resort-residential complex



KAUAI OCCUPANCY REMAINS BELOW PEAK, BUT VISITOR CENSUS SETS RECORDS.

in the same area, but that project was scrapped in the face of substantial community opposition. The newly proposed project has a lower density design that would divide units into a number of two-story cottages to minimize the impact on view planes. Still, the project has generated some community concern and has yet to receive County approval. If and when approvals are granted, construction could be completed in 18 months.

Visitor arrivals will average about 2% annual growth over the next three years, facilitated by two new Island Air flights between Honolulu and Lihue. The biggest arrivals gains will come from the dominant US market, where ongoing economic growth and strong consumer confidence should support healthy travel spending. The near-term outlook is more mixed for international markets, which make up a relatively small share of visitors to the Garden Isle. Kauai's biggest international market is Canada, where arrivals slumped by a quarter between mid-2014 and mid-2016 because of the country's weak economy and currency. There has been an encouraging pickup recently, although it is too soon to say how fast this market will recover, considering still-weak fundamentals. Moderate growth will continue for

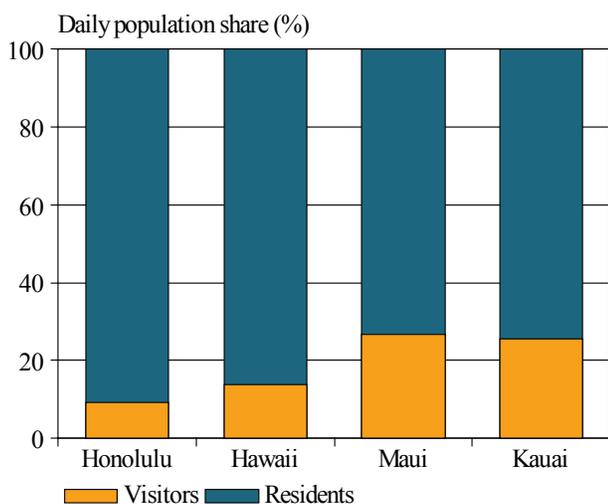
other non-traditional markets, including China, South Korea, and Australia. Arrivals from Japan will also increase, but they remain a very small market segment on Kauai.

CONSTRUCTION AND HOUSING

While late to the table, the construction industry became the biggest contributor to job growth in 2015 and 2016, adding 400 jobs over the period. The buildup of new construction activity is now complete, and the industry will operate at roughly the same level for the next few years, before a gradual falloff begins.

The resort development described above will continue to represent the biggest share of construction activity. In the residential sphere, there is a mix of affordable and market-priced housing in the works, although the overall scope of building is limited. The second phase of the 90 unit Kanikoo affordable senior housing complex was completed in January. The first phase of Hooluana at Kohea Loa, a joint project between D.R. Horton and the County of Kauai, began construction last June. It consists of a mix of 151 market priced and affordable housing units. Eventually the project will supply more than 400 homes, of which more than 40% will be classified as affordable. Habitat for Humanity broke ground in January on infrastructure work for the next phase of its Elelee Iluna subdivision. The project will provide 125 affordable housing units when fully completed; a dozen homes from phase one are already occupied. Kauai County's proposed Lima Ola affordable housing project, also in Elelee, has filed a petition with the State to rezone agricultural land for urban use. At full buildout, the development would have up to 550 affordable units.

The emphasis on affordable housing development reflects the keen shortage on Kauai of a housing stock to meet the needs of moderate-income residents. The dearth of a satisfactory pool of such homes is evident in home resale

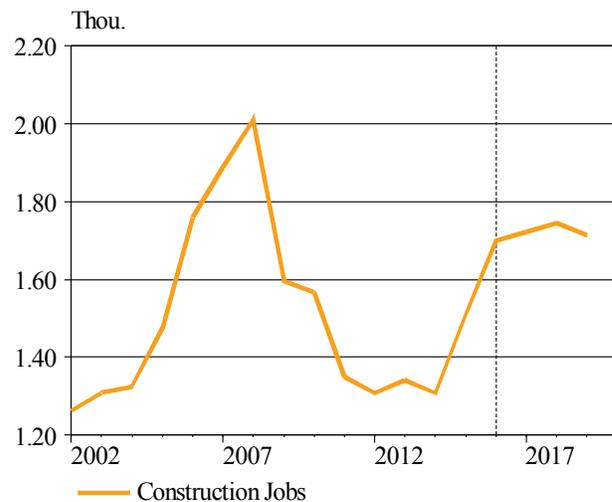


VISITORS MAKE UP ONE-QUARTER OF KAUAI'S DAILY POPULATION.

statistics. While in recent months there has been a deep pool of properties for sale valued at more than \$1 million, in the first quarter there were reportedly only five properties listed below \$600,000 in the region from Kalaheo to Poipu. The list of impediments to development is not new, including high land and construction costs, the long and uncertain entitlement process, and the desire to preserve agricultural and open space.

Hand-in-hand with affordability are concerns about the quality of life for domestic residents and the need to provide a world-class experience for visitors. Inadequate transportation infrastructure is a perennial problem on the island, where the primary highway system is overburdened, and where areas of housing concentration are not always close to workplaces. The county fared well in the recently-approved State budget, with a significant portion of the \$168 million CIP allocation for Kauai earmarked for a wide range of roadway maintenance and improvement projects. Other elements of the CIP budget include restoration of the Ahukini landfill, renovations to the Samuel Mahelona Memorial Hospital, improvements to Waimea Park, and \$18 million in upgrades and improvements to the Lihue Airport.

There are efforts underway on Kauai to encourage more flexible development to meet housing and quality of life needs. Elements of the General Plan Update are intended to direct more development to Lihue and the South Shore. The South Kauai Community Plan, adopted in 2015, implements form-based code principles to encourage the development of livable mixed-use communities. In Lihue, with support from a \$14 million federal grant for urban revitalization, the County has been working on plans to add bicycle lanes, sidewalks, and pedestrian crossings on Rice Street, toward the goal of developing a walkable urban core. Pending County Council approval, construction could begin by the end of 2018.



THE CONSTRUCTION INDUSTRY WILL OPERATE AT ROUGHLY THE SAME LEVEL FOR THE NEXT FEW YEARS.

GROWTH IN OTHER INDUSTRIES

As we noted above, tourism continues to operate at a high level, but its rate of growth has eased. As a result, hotels and timeshares are no longer adding a significant number of new jobs. Hiring by restaurants has remained strong, supported both by the visitor industry and growth in the incomes of local residents. Last year, this generated a 3.7% surge in jobs in the combined accommodation and food service category. As tourism and the broader local economy continue to slow, industry payroll growth will subside to the roughly 1.5% range for the next three years.

With some variation, most other sectors of the economy are expected to see slower growth than they have experienced in the expansion to date. Private health care, which spiked last year with the opening of the county's first Kaiser Permanente clinic in Lihue, will remain relatively buoyant, reflecting underlying strength in the demand for medical services, although changes in federal healthcare policy could have a substantial impact. Doctor shortages remain a problem.

Retail trade will see very limited growth now that tourism is decelerating and retailers face an increasingly challenging competitive environment. Our large “other services” category will grow at about a 1% annual rate through 2019. At the County level, the Mayor is looking to place a six-month hiring freeze on new vacancies in an effort to help balance the budget. Because of budget pressures, we expect the overall path of government employment on Kauai to be relatively flat, although there is great uncertainty about the scope and impact of potential federal spending changes.

The federal government has a limited but important presence on Kauai. The biggest player here is the Pacific Missile Range Facility, whose roughly 150 workers represent about one-third of all federal employees on Kauai. The economic impact of the facility is considerably greater than these numbers suggest. Each Missile Defense Agency test brings 300-400 contractors and military personnel to the Island, contributing about \$2 million in local spending. Naval training and test and evaluation events each bring in perhaps 250 people. Recently, the heightened tensions with North Korea have renewed calls by some to implement a

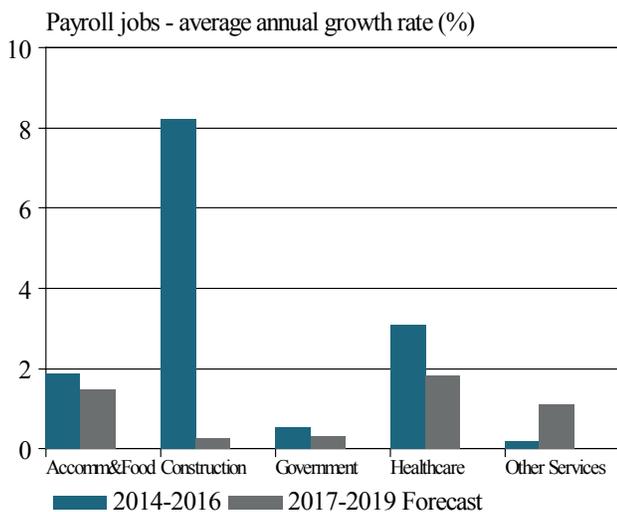
combat-ready missile defense system at the base. PMRF has continually emphasized the importance of maintaining the facility’s core testing and training missions.

PMRF is also playing a role in addressing an ongoing concern on Kauai: weaknesses in the local labor force that both limit opportunities for Kauai residents and act as an impediment to business development. Faced with its own rapidly aging workforce, the facility has partnered with Kauai Community College on a two-year program to train technicians. Concerns about the Island’s workforce extend well beyond technical areas. Employers often report difficulty finding a sufficient pool of high caliber workers for businesses ranging from hotels to agriculture to construction. Limits to entrepreneurial skills are also a problem, and both the County and the Small Business Development Center have programs to facilitate skills development and business formation.

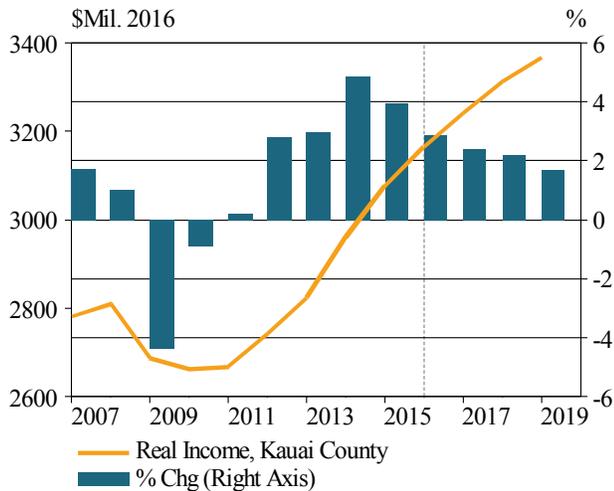
ENERGY, AGRICULTURE, AND BUSINESS DEVELOPMENT

Important transitions continue to play out in energy and agriculture on Kauai. The adoption of renewable energy is proceeding at a rapid pace. The Kauai Island Utility Cooperative has upped its goal to generate 70% of its power from renewables by 2030. A joint SolarCity/Tesla solar-plus-battery facility brought the island to the 44% level recently, and waiting in the wings is one of the world’s largest such facility by AES Corp. that will push the renewable generation share to more than 50%. That system will produce 28 MW of solar energy, storing a five-hour supply in a 20 MW battery farm. The Navy has plans for a solar-plus-battery storage system that would generate 44 MW of energy.

Kauai’s seed corn industry continues to downsize, reflecting global consolidation in the biotechnology industry resulting from low commodity prices. Statewide, seed crop cultivation fell to 4,000 acres in the 2015-2016 growing



THE CONSTRUCTION SURGE HAS ENDED, AND MANY OTHER SECTORS WILL SLOW.



REAL INCOME EARNED BY KAUAI RESIDENTS HAS GROWN AT A HEALTHY PACE SINCE 2012.

season, down from 6,500 acres in 2009-2010 (county level figures are not available). Coffee continues to play an important role on the Island, now the only of the four counties free of the coffee borer beetle. The invasive pest burrows into the cherry of the coffee plant, reducing the quality and quantity of the harvest. In order to limit the spread of the pest, the State has implemented a quarantine program that limits shipment of coffee trees and unroasted beans from infested areas. As we have seen in other counties, Kauai is experiencing an increase in production of diversified agricultural products by independent farms, spurred in part by the growing popularity of farmers' markets.

The Ulupono Initiative's Hawaii Dairy Farms project has been slowed by litigation and pushback from environmentalists, the community, and resort interests. In February, the company pulled the environmental impact statement for the 699 head farm to allow more time for public comment. It has also withdrawn its stormwater construction permit request for now. Meanwhile, a lawsuit filed by Kawailoa Development LLP claiming that the dairy farm's wastewater treatment unit would adversely affect its interests in the Hyatt Regency Kauai and the Poipu Bay Golf

Course prompted a judge to revoke permits and approvals for construction until the EIS is submitted.

Agriculture is among a number of areas with potential for further small business development. Starting viable new businesses on Kauai is not easy, considering the high costs, the small and isolated local market, and the difficulty finding skilled workers. Agricultural interests are working to develop shared processing facilities for diversified agriculture. The County, the University of Hawaii System, and the Kauai Small Business Development Center have launched a range of initiatives to support business development. KCC has introduced an entrepreneurial business track, and KEDB holds a new business plan competition. A Creative Tech Center is underway, and there are plans for a culinary arts business incubator. Often, successful new businesses exploit tie-ins with tourism and the Kauai brand, for example through promotion as Kauai Made products. While the scope for new small business creation on Kauai is uncertain, these enterprises will certainly make a contribution to the incremental diversification of the Island's economy.

GROWTH SUMMARY AND OUTLOOK

Despite evident challenges, the range of developments across Kauai's industries support a positive view both of current conditions and future prospects. The local labor market has now recovered from the aftereffects of the last recession, with the unemployment rate falling in recent months to about 3%, within a percentage point of its value at the peak of the last cycle. The number of nonfarm payroll jobs has edged above the previous high set in June 2007. Improved employment and business conditions have also driven income gains. The total personal income earned by Kauai residents has grown at a healthy 3-5% pace in inflation-adjusted terms for five straight years, and this has pushed real per-capita income well above pre-recession levels.

Looking forward, growth will slow but not cease. Visitor volumes, which are already at record levels, will edge a bit higher, resulting in incremental job gains in visitor-focused industries but placing further pressure on county infrastructure. The construction sector, which has been buoyed by resort development, will see the level of new building plateau before cooling late in the decade. The broader local economy will also decelerate. Aggregate employment growth will slow to 1% this year and a bit further thereafter. Together with somewhat higher inflation, this will cause real income growth to ease from the roughly 2.5% range this year and next to less than 2% by 2019. Growth in this range is consistent with the county's move past the period of economic recovery toward a pace that is in line with longer-run trends in population and labor force growth.

This trend slowing is happening against an unusually unsettled backdrop. The new administration in Washington, DC, has introduced uncertainty in a wide range of areas, including in the level and composition of federal spending, immigration policy, and the paths for macroeconomic factors including employment, interest rates, and inflation. It will likely be late this year before we know what policy changes will ultimately be adopted, but certainly there is the potential for disruptive change that could help or hurt specific industries, such as defense or healthcare, or that could affect the general environment for economic growth. These national uncertainties necessarily inject local uncertainty into what is otherwise a generally positive outlook for the Kauai economy.

MAJOR ECONOMIC INDICATOR SUMMARY
KAUAI COUNTY FORECAST

	2014	2015	2016	2017	2018	2019
Non-farm Jobs (Thou)	29.6	30.0	30.3	30.6	31.0	31.3
% Change	1.6	1.6	1.1	1.0	1.2	0.8
Total Population (Thou)	70.5	71.5	72.0	72.7	73.2	73.8
% Change	1.3	1.3	0.8	0.9	0.7	0.9
Total Personal Income (Mil \$)	2,875.1	3,017.9	3,165.8	3,325.4	3,487.9	3,632.5
% Change	6.4	5.0	4.9	5.0	4.9	4.1
Inflation Rate, Honolulu MSA (%)	1.4	1.0	2.0	2.6	2.6	2.4
Real Personal Income (Mil 2016 \$)	2,961.0	3,077.2	3,165.8	3,241.0	3,312.6	3,367.8
% Change	4.9	3.9	2.9	2.4	2.2	1.7
Real Per Capita Income (Thou 2016 \$)	42.0	43.1	44.0	44.6	45.2	45.6
% Change	3.5	2.6	2.1	1.4	1.5	0.8
TOURISM SECTOR DETAIL						
Total Visitors (Thou)	1,120.0	1,173.8	1,187.5	1,213.0	1,240.1	1,261.9
% Change	0.5	4.8	1.2	2.1	2.2	1.8
U.S. Visitors	904.0	947.7	973.5	996.4	1,019.3	1,036.6
% Change	-0.6	4.8	2.7	2.4	2.3	1.7
Japanese Visitors	23.8	25.7	22.9	23.7	24.5	25.4
% Change	-19.0	7.8	-11.0	3.8	3.1	3.7
Other Visitors	192.2	200.3	191.1	192.9	196.4	200.0
% Change	9.6	4.2	-4.6	0.9	1.8	1.8
Avg. Length of Stay (Days)	7.7	7.6	7.6	7.6	7.5	7.5
Visitor Days (Thou Days)	8,590.5	8,907.6	9,080.2	9,201.8	9,339.2	9,461.8
% Change	1.1	3.7	1.9	1.3	1.5	1.3
Occupancy Rate (%)	70.1	71.2	72.7	73.9	72.9	72.8

Note: Source is UHERO. Historical figures for occupancy rate are from Hospitality Advisors LLC. Figures for 2016 Income are UHERO estimates. Figures for 2017 - 2019 are forecasts.